

# Work Order ID 88103

\*88103\*

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Thursday, July 26, 2012 11:00:31 AM

Item ID: D3552-25 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Door Prop  
 Start Date: 7/26/2012 Start Qty: 2.00 \*2\* Cust Item ID:  
 Required Date: 8/9/2012 Req'd Qty: 2.00 \*2\* Customer:  
 Reference: ECN 12-624 **REWORK**

Approvals: Process Plan: MF Date: 12-07-26 Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3552    | J            |

150 0.00

\*150\*

Purchasing

Purchasing

Memo

0.00

PULL FROM STOCK D3552-25 X 2 B 77670  
 AND SEND TO LS TECHNOLOGIES TO HAVE REWORKED PER ECN 12-624

Issue P/O: 17549  
 Supplier: LS Technologies  
 Certificate of conformity is required

**Receive & INSPECT**

160 QC6- Inspect dimensions to drawing 0.00

\*160\*

QC

Quality Control

Memo

0.00

**DAS**  
**16**  
**9-83**

17/08/10

(72)

12-07-27

*[Signature]* (2)

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |                          |      |      |   |   |   |                    |             |              |              |  |
|--|--------------------------|------|------|---|---|---|--------------------|-------------|--------------|--------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                          |      |      | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> |   | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                    |             |              |              |  |
| <b>Root Cause</b>  |                          | Date | Step | Qty   | Description of work order update or Non-conformance | Initial Chief Eng   | Action Description | Sign & Date | Verification | QC Inspector |  |
| Doc/Data   | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Equip/Tooling  | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Operator   | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Material   | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Setup  | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Other  | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Process  | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Supplier   | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Training   | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |
| Unapproved   | <input type="checkbox"/> |      |      |   |   |   |                    |             |              |              |  |

| FAULT CATEGORY   |   |   |   |  |
|--|---|---|---|--|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped.<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |  |

**\*88103\***

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**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

\*2\*

**Start Date:** 7/26/2012      **Start Qty:** 2.00

**Cust Item ID:**

**Required Date: 8/9/2012      Req'd Qty: 2.00**

\*2\*

**Customer:**

**Reference:** ECN 12-624

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

## Operation Description

## Set Up/ Run Hours

| Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---------|--------|-----------|------------|------------|---------------|-------------|
|---------|--------|-----------|------------|------------|---------------|-------------|

170

Identify as per dwg & Stock Location: 51 264 0.00

**\*170\***

### Packaging

## Memo

0.00

## Packaging

180

QC21- Final Inspection - Work Order Release

0.00

**\*180\***

QC

## Memo

0.00

## Quality Control

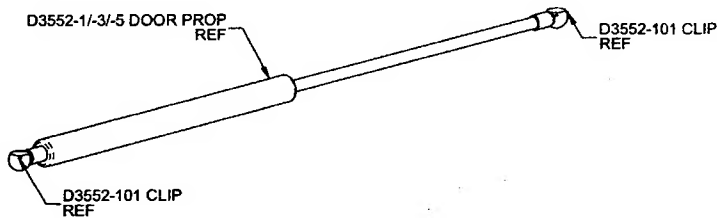
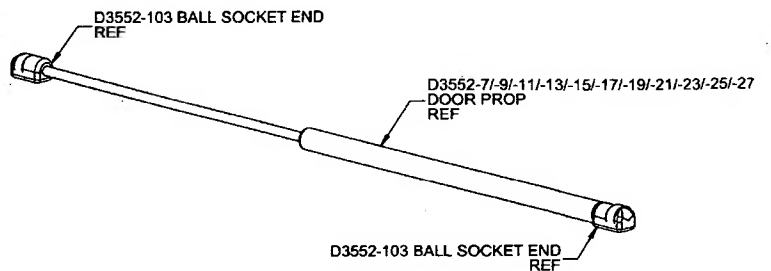
21

Sp  
12-8-10

12/8/13

CMF  
12-08-11

# SPECIFICATION CONTROL DRAWING



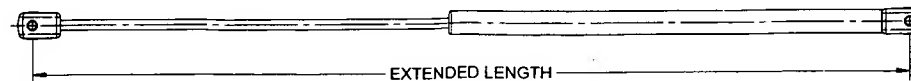
RELEASED  
2012-07-24

| K          | ADD "X" TO LS TECHNOLOGIES P/Ns TO DESIGNATE "EXTRA DAMPING" FOR D3552-15/-17/-19/-25/-27. REASON: PART2-209.   | MB  | 12.07.16 |
|------------|---|-----|----------|
| J          | ADD P/N D3552-25/-27. REMOVE ALTERNATE PART NUMBER FOR -15, -17 AND -19. STROKE FOR -15, -17 AND -19 WAS 138/6.08 NOW 154/6.06. EXTENDED LENGTH FOR -15, -17 AND -19 WAS 386/15.2 NOW 387/15.2                  | AP  | 11.12.07 |
| I          | ADD P/N D3552-23  | RF  | 11.10.11 |
| H          | ADD P/N D3552-21  | DC  | 11.03.10 |
| G          | FOR -15, FORCE-300/67.4 WAS 400/89.9. SUPPLIER P/N B8-154-387-300N WAS B8-154-387-400N. FOR -17, STROKE: 139/5.47 WAS 160/6.30. EXT LG: 386/15.2 WAS 407/16.0. SUPPLIER P/N B8-154-387-156N WAS B8-187-408-156N | JPH | 10.11.01 |
| F          | ADD P/N D3552-15/-17/-19 AND ALTERNATE SUPPLIER   | JPH | 10.07.27 |
| E          | ADD P/N D3552-13 ZN B8-1, A8-1, D6-1, CHANGE NAME FROM "GAS SPRING" TO "DOOR PROP" THROUGH OUT DWG  | HS  | 10.02.03 |
| D          | ADD P/N D3552-101 ZN D6-1, C7-1, C1-1 AND D3552-103 ZN D1-1 AND C2-1 AND ZN B8-1; ADD NOTE REGARDING D3552-101 AND D3552-103 COMPATIBILITY ZN A8-1  | HS  | 09.04.02 |
| C          | ADD D3552-11 AND CONVERSIONS FOR INSPECTION; UPDATE P/N FOR D3552-7   | LE  | 07.08.01 |
| B          | ADD D3552-7/-8; UPDATE DESC. D3552-1/-3/-5  | LE  | 06.10.24 |
| A          | NEW ISSUE   | LE  | 06.09.15 |
| REV.       | DESCRIPTION   | BY  | DATE     |
| DESIGN     | JE  |     |          |
| DRAWN      | JE  |     |          |
| CHECKED    | JE  |     |          |
| MFG. APPR. | JE  |     |          |
| APPROVED   | JE  |     |          |
| DE APPR.   | JE  |     |          |
| DATE       | 12.07.16  |     |          |

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D3552** REV. K  
SHEET 1 OF 2  
TITLE **DOOR PROP** SCALE NTS

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| DART PART NUMBER | DESCRIPTION               | STROKE (mm/in) | EXTENDED LENGTH (mm/in) | FORCE (N/lb) | END FITTING            | MATERIAL     | SUPPLIER        | SUPPLIER PART NUMBER OR MODEL NUMBER |
|------------------|---------------------------|----------------|-------------------------|--------------|------------------------|--------------|-----------------|--------------------------------------|
| D3552-1          | DOOR PROP                 | 220/8.66       | 530/20.6                | 70/15.7      | 10mm SS BALL SOCKET    | CARBON STEEL | LS TECHNOLOGIES | C8-220-530-070N                      |
| D3552-3          | DOOR PROP                 | 200/7.87       | 490/19.3                | 200/45.0     | 10mm SS BALL SOCKET    | CARBON STEEL | LS TECHNOLOGIES | C8-200-490-200N                      |
| D3552-5          | DOOR PROP                 | 175/6.89       | 430/16.9                | 150/33.7     | 10mm SS BALL SOCKET    | CARBON STEEL | LS TECHNOLOGIES | C8-175-430-150N                      |
| D3552-7          | DOOR PROP                 | 220/8.66       | 530/20.9                | 70/15.7      | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-220-530-070N                      |
| D3552-9          | DOOR PROP                 | 200/7.87       | 490/19.3                | 200/45.0     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-200-490-200N                      |
| D3552-11         | DOOR PROP                 | 240/9.45       | 575/22.6                | 150/33.7     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-240-575-150N                      |
| D3552-13         | DOOR PROP                 | 220/8.66       | 530/20.9                | 140/31.5     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B6-220-530-140N                      |
| D3552-15         | DOOR PROP W/EXTRA DAMPING | 154/6.06       | 387/15.2                | 300/67.4     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-154-387-300NX                     |
| D3552-17         | DOOR PROP W/EXTRA DAMPING | 154/6.06       | 387/15.2                | 156/35.1     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-154-387-156NX                     |
| D3552-19         | DOOR PROP W/EXTRA DAMPING | 154/6.06       | 387/15.2                | 60/13.5      | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-154-387-060NX                     |
| D3552-21         | DOOR PROP                 | 167/6.57       | 410/16.1                | 70/15.7      | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B6-167-410-070N                      |
| D3552-23         | DOOR PROP                 | 190/7.48       | 475/18.7                | 70/15.7      | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B6-190-475-070N                      |
| D3552-25         | DOOR PROP W/EXTRA DAMPING | 148/5.83       | 475/18.7                | 300/67.4     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-148-475-300NX                     |
| D3552-27         | DOOR PROP W/EXTRA DAMPING | 148/5.83       | 475/18.7                | 156/35.1     | 10mm NYLON BALL SOCKET | CARBON STEEL | LS TECHNOLOGIES | B8-148-475-156NX                     |
| 2 D3552-101      | CLIP                      | N/A            | N/A                     | N/A          | N/A                    | CARBON STEEL | LS TECHNOLOGIES | C9                                   |
| 3 D3552-103      | BALL SOCKET END           | N/A            | N/A                     | N/A          | N/A                    | NYLON        | LS TECHNOLOGIES | B10                                  |

# **D3552-X DOOR PROP**

**RELEASED**  
2012-07-24

## **NOTES:**

- 1) IDENTIFICATION: IDENTIFY PER QSI 044 6.2
- 2) D3552-101 CLIP IS ONLY COMPATIBLE WITH D3552-1/-3/-5 DOOR PROPS
- 3) D3552-103 BALL SOCKET END IS ONLY COMPATIBLE WITH D3552-7/-9/-11/-13/-15/-17/-19/-21/-23/-25/-27 DOOR PROPS

|               |  |  |              |
|---------------|--|--|--------------|
| DESIGN        |  | <b>DART AEROSPACE LTD</b>  |              |
| DRAWN         |  | HAWKESBURY, ONTARIO, CANADA  |              |
| CHECKED       |  | DRAWING NO.  | REV. K       |
| MFG. APPR.    |  | D3552  | SHEET 2 OF 2 |
| APPROVED      |  | TITLE  | SCALE        |
| DE APPR.      |  | DOOR PROP  | NTS          |
| DATE 12.07.16 |  | <small>COPYRIGHT © 2006 BY DART AEROSPACE LTD<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> |              |

## LS TECHNOLOGIES INC

314 Jessop Ave  
Saskatoon, SK S7N 1Y6

Ph # (306) 683-5000

**Packing Slip**

| P.O. No. | Date      | Invoice # |
|----------|-----------|-----------|
| 17549    | 8/09/2012 | 8930      |

| Name / Address  |
|---|
| Dart Aerospace Ltd<br>1270 Aberdeen St.<br>Hawkesbury, ON K6A 1K7 |

| Ship To   |
|---|
| Main Finished Goods Location<br>Dart Aerospace Ltd<br>1270 Aberdeen St.<br>Hawkesbury, ON K6A 1K7 |

| Ship      | Via    | FOB |
|-----------|--------|-----|
| 8/09/2012 | Fed-Ex |     |

| Qty | Description  |
|-----|--|
|     | Parts returned from DART for rework to add Extra End of Stroke Dampening               |
| 10  | D3552-17 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-154-387-156NX ) |
| 14  | D3552-15 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-154-387-300NX ) |
| 1   | D3552-27 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-148-475-156NX ) |
| 10  | D3552-19 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-154-387-060NX ) |
| 2   | D3552-25 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-148-475-300NX ) |
|     | Shipping Via FED EX Tracking # 798717499878  |



LS Technologies Inc  
314 Jessop Ave  
Saskatoon, SK, S7N 1Y6  
Ph: (306) 683-5000 Fax: (306) 683-6403

### Certificate of Compliance

This is to certify that the parts listed below meets specifications as required by your order.

Aug 09, 2012

10 Units: D3552-17 Carbon Steel Gas Spring

14 Units: D3552-15 Carbon Steel Gas Spring

1 Unit : D3552-27 Carbon Steel Gas Spring

10 Units: D3552-19 Carbon Steel Gas Spring

2 Units: D3552-25 Carbon Steel Gas Spring  
D17(03/10

Country of Manufacture: Canada  
Date of Manufacture : July 2012  
This product is ROHS compliant.

Purchase Order # 17549  
Invoice # 8930

L S Technologies Inc Canada

Nolan Fehr  
Manager